3:Gt. Brit., Colonial Office G-3 (1938) 1940 MM1 Aden MM1

for the more serious cases which are transferred to the Civil Hospital. One Assistant Medical Officer is stationed on Perim Island where there is a small dispensary, with limited accommodation for in-patients.

The Keith Falconer South Arabia Mission has a large and well-equipped hospital at Sheikh Othman staffed normally by two European doctors and a European nursing staff. Other charitable institutions are two dispensaries, one maintained by public subscription with a Government subsidy and the other supported entirely by the prominent Parsi firm of Messrs. Cowasjee Dinshaw & Brothers.

The Royal Air Force hospital meets the medical requirements of the British Forces in Aden.

There are several dentists practising in the Colony, and the Royal Air Force has a fully qualified dentist, who is permitted private practice.

A total of 19,141 out-patients, and 2,366 in-patients received treatment during the year 1938 in the two Government hospitals, and, *excluding the Royal Air Force hospital*, but including other hospitals and dispensaries, a total of 67,694 out-patients and 3,872 in-patients were treated in the Colony during the year 1938 as compared with 60,069 and 3,206 in 1937.

The general health of Aden has remained satisfactory throughout the year. Many of the insect-borne diseases commonly found in tropical and subtropical countries are absent and, although a mild intestinal infection is very common, serious diseases such as typhoid fever and dysentery are rare. 1,292 cases of malaria were treated in the hospitals. From the investigation of the histories of these it was proved that all except 11 were due to infection acquired outside the Colony: all these cases were among service personnel resident in the leased military areas. The 12 cases of typhoid reported during the year show an increase on previous years, which is probably due to increased care taken in confirming the diagnosis of prolonged fevers. Minor outbreaks never assumed epidemic proportions, and in all cases water and milk supplies were examined and cleared from suspicion.

There is a leprosy hospital at Sheikh Othman supported partly by the Government of Aden and partly by Aden Settlement funds and administered medically by the staff of the Keith Falconer South Arabia Mission. Here again the Colony of Aden acts as the kind sister to her neighbours, as almost all the patients hail from the interior.

There has been no epidemic of major infectious or contagious diseases during the year. Chickenpox, measles and mumps crop up from time to time and are treated in the Infectious Diseases Hospital on Maala plain.

3:Gt. Brit. . Colonial Office G-3 (1938) 1940 MM1 Aden MM1

743 A small Lunatic Asylum is situated outside the walls of the Civil
758 Hospital and is administered from it.

744 The Port Health work is a very important feature in the medical and sanitary organization of the Colony. The proximity of Aden by sea to ports which are subject to periodic infections makes the careful inspection of vessels a vital matter, and in addition the services of the Port Health Officer are in constant demand to assist the masters of the many cargo ships which use the port and carry no doctor. Passengers and members of the crews requiring hospital treatment are accommodated in the European General Hospital, or, if the illness is an infectious one, in suitable isolation. A few cases of chickenpox and three cases of modified smallpox were landed from shipping during 1938.

743 In the European General Hospital 66 residents of Aden and 155
744 patients from ships were treated as in-patients during the year. In all 23 different nationalities were represented.

During 1938, 2,178 Bills of Health were issued to mechanically propelled vessels and 1,609 to native craft.

V.—HOUSING

General

342 Houses in Aden are of stone masonry, except at Sheikh Othman
647 where they are mostly built with sun-dried bricks.

656 The control of housing in Aden is vested in the Executive Committee of the Settlement, and plans for new buildings and reconstructions are passed by them after scrutiny by the Medical Officer of Health and the Settlement Engineer.

Particular attention is paid to efficient lighting and ventilation. Each residential building is provided with sanitary and kitchen accommodation separated from the living rooms by open court-yards or by large shafts open to the sky.

Most of the houses are provided with floors made of cement-concrete; this is insisted upon in all new buildings, and the height of the houses is never allowed to exceed the width of the streets.

Back-to-back houses are not allowed; a few still exist in the village of Maala, but these are being demolished as opportunity occurs.

514 At the rear of all houses there are open spaces from 5 ft. to 10 ft.
364 wide. They are called sweeper passages, and the sanitary accommodation of the houses abuts on to these spaces and is drained into them. Each such passage is connected with the main drainage system in all divisions of the Settlement except Maala, where it is connected with a large soak pit.

Every building plan is carefully scrutinized by the Public Health Department before construction is allowed.

5:Gt. Brit., Colonial Office G-3 (1947) 1949 MM1 Aden MM1

culties in providing buildings and staff necessarily limited the rate of expansion. One of the main features of educational development during the year was the successful conversion of buildings to house the expanded Government Secondary School. The release of classrooms previously used by the Secondary School enabled the Primary School to take in a greater number of pupils. Another satisfactory development during the year was the institution of a teacher-training course at the Government Girls' School, Crater. The lack of local teacher-training facilities for male teachers was met by sending abroad a number of students to obtain higher qualificatons in the teaching profession.

The year in general was a period of consolidation, but progress was made in all Government schools. This progress was also reflected in some of the grant-aided schools. In particular, the Gujerati School Committee were granted a site for their new school and plans for this were begun. The cost of the building and the recurrent expenditure will be subsidised in part by Government.

Medical and Health Department

The accommodation at the Civil Hospital was filled to capacity throughout the year.

The new appointment of an officer with specialist experience in venereal and skin diseases has proved most beneficial to the community.

Besides a marked improvement in the treatment of social diseases, the cure of ulcer cases—hitherto a difficult matter—received special attention, with the result that the overcrowded ulcer ward with its heavy quota of apparently incurable cases is now a thing of the past.

The treatment of pulmonary tuberculosis continued to yield excellent results. Lack of hospital accommodation has been overcome, in part, by the institution of domiciliary treatment.

The granting of facilities for post-graduate study has already proved its worth. One Senior Assistant Medical Officer was made a Fellow of the Royal College of Surgeons of Edinburgh and another obtained the Diploma in Tropical Medicine of Calcutta, coming second in the list of candidates.

The increase in the work of the Maternity and Child Welfare Clinic shows that it meets, as far as it can, a vital community need. A reduction in the distressingly large numbers of infants who die before reaching the age of 12 months must be the main object of the Clinic's activities. The next most important point is the raising of the standard of midwifery. A course of instruction, followed by an examination, was instituted for local midwives.

Public health measures continued to be vigorously applied. No case of serious communicable disease occurred during the year.

A heavy burden was laid upon the Port Health Staff by the outbreak of cholera in Egypt. All possible precautions were taken to prevent the entry of cholera here and the staff undertook much additional work.

The installation of the electro-therapeutic apparatus at Steamer Point was an important addition to the facilities for treatment, and the Colony

G.Gt. Brit., Colonial Office G-3 (1947) 1949 MM1 Aden MM1

take shape. The appointment of an Assistant Medical Officer with special knowledge of venereal and skin diseases was a definite step forward in the campaign against social diseases. It has now been possible to organise better treatment for both in-patient and out-patient venereal-disease cases at the Civil Hospital. 759 758

In addition, systematic treatment of tropical ulcers was started, with the result that the hitherto overcrowded ulcer ward was markedly improved owing to the reduction in the time needed to effect a cure.

The Civil Hospital staff was strengthened by the appointments of a Medical Officer with laboratory experience, a Surgical Specialist, and a Radiologist.

The installation of a new X-ray plant, the construction of a much-enlarged laboratory, the erection of a new 44-bed ward for pulmonary tuberculosis and an additional operating theatre were all completed during the year. 743

With the exception of pulmonary tuberculosis, all the principal causes of death showed a general decrease, though the death-rate exceeded that of 1946. This was due to the deaths during the civil disturbances. 165

The number of deaths from pulmonary tuberculosis rose from 191 in 1946 to 241. The reason for this was more accurate diagnosis due largely to increased X-ray examinations. Over 1,000 such examinations were made during the year, compared with an annual average of 20 to 30 before 1945.

As a result of the disturbances in December no cases could be accommodated in the new tuberculosis ward, which had to be used for emergency purposes. A severe shortage of beds led to the institution of domiciliary treatment and the monthly average of cases visited in their homes was between 50 and 60. Apart from the fact that a surprisingly large proportion of cases showed improvement, this extension of anti-tuberculosis activities was of public health importance as it was possible to teach simple hygiene in the homes. 743 744

The civil disturbances in December threw a tremendous burden upon the staff and resources of the Civil Hospital. The fact that the administration successfully stood the test of the sudden admission of scores of severely wounded cases reflected great credit on the staff, particularly upon the locally trained members who rendered loyal and efficient service.

Attendance at the Maternity and Child Welfare Clinic continued to increase and there is no doubt that the instruction given at the various out-patient clinics is beginning to have an important effect on a community which has been, until quite recently, completely ignorant of the principles of mothercraft.

During the last quarter of the year, the outbreak of cholera in Egypt caused a big increase in the work of the Port Health staff. Not only had strict supervision to be exercised over all entrants from infected ports but a large number of in-transit passengers and crews had to have anti-cholera inoculations before proceeding to Egyptian ports. No case of cholera, or of any of the other quarantinable diseases, occurred.

7: Gt. Brit., Colonial Office G-3 (1949-50) 1951 MM1 Aden MM1

164 An important factor influencing this reduction has been the intensification of the methods of fly control.

No outbreak of typhoid occurred, all notified cases were sporadic in origin and a number of them were among recent arrivals from the interior.

Pulmonary Tuberculosis. In 1950 the total deaths from this disease amounted to 113 compared with 293 per 100,000 of population in the period 1930-44. The decrease is directly attributable to the measures taken since 1945. These include the provision of more beds—there is now one bed for each T.B. death as compared with one bed for 25 deaths in 1944; domicilary care for cases for whom no hospital accommodation could be provided ; and financial aid by the Aden Society for the Prevention of Tuberculosis to the dependants of those undergoing treatment either in hospital or at home.

The results of treatment have been encouraging, about 70 per cent of those treated in hospital have recovered sufficiently to return to work. [657] From 1948 to 1950 there were 58 Government employees admitted to hospital under the regulations granting 12 months' full-pay sick leave to T.B. sufferers. It is estimated that 80 per cent of those have resumed, or will be fit to resume, work following treatment.

Notifications of pulmonary T.B. reached the record figure of 530 in 1950. This rise was due to the ever increasing numbers of those who came to Aden from other countries attracted by the news of successful treatment. As far as the Aden born population was concerned the cases notified in 1950 showed a definite decrease as compared with 1949.

Malaria

The Colony remained completely free from malaria and the vigorous anti-mosquito campaign reduced the number of breeding places of domestic mosquitoes to the record low figure of one detected breeding place in every 5,000 houses and surroundings inspected.

165 *Maternity and Child Welfare*

For the first time in six years the infant mortality rate for 1949 showed a definite fall as opposed to a small but steady rise since 1946. Preliminary figures for 1950 show there has been a further decrease bringing the infantile mortality rate down to around 140 ; in 1944 it was 187.

748 Another advance has been the recruitment of four Home Visitors
●758 to go into the homes and teach the mothers the elementary principles of infant care. Three of the Home Visitors are Muslim women and it is an achievment to have persuaded them to break with tradition and undertake outdoor work.

743 Not only have the attendances at the Maternity and Child Welfare
758 Clinic shown large increases, but the proportion of Arabian women and children reached 60 per cent of total attendances as compared with 25 per cent in 1944.

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urban communities in the Middle East. Pulmonary infections predominate, but other forms of the disease are also observed.

Tuberculosis is widespread in the immigrant populations in Aden, as shown by the fact that 58 to 70 per cent of the cases of pulmonary tuberculosis recorded in the three years 1948-50 were in nonresidents. Among the 530 cases reported in 1950, Aden was the place of origin in 152, Yemen in 193, Western Aden Protectorate in 99, Eastern Aden Protectorate in 12, and Somaliland, India and other countries in the remainder. In the decade 1941-50, the number of deaths attributed to pulmonary tuberculosis ranged from 113 to 261 a year, with peaks of prevalance associated with large migrations of immigrants.

Although tuberculosis has long been regarded as a major cause of sickness and death in the Colony, few facilities for diagnosis and treatment existed before 1945. In that year, the health authorities initiated a campaign for the reduction of tuberculosis in all ecopomic groups of the population. The diagnostic services were reorganized and X-ray equipment provided. Special wards were also added to the civilian hospitals; the number of beds available for the treatment of tuberculosis was increased from 18 in 1945 to 150 in 1951. As a further preventive measure, a program of supervised domiciliary treatment was introduced in 1947 to furnish care to persons who could not be hospitalized.

Following the organization of the anti-tuberculosis campaign, there was a decrease in the specific death rates from around 29.3 per 10,000 population in the period 1931-44 to 11.3 in 1950. In the latter year, the corrected rate for the local population alone was 8.4 per 10,000. A tuberculin testing and BCG inoculation program was planned for 1952 by the Medical and Health Department, in co-operation with the World Health Organization.

Smallpox. In spite of the fact that localized epidemics of smallpox are recurrent in the Protectorate, no outbreaks have been

A 164 porting, 2,018 and 2,325 cases, respectively, were recorded. Of these, 59 to 63 per cent were diagnosed as syphilis and 31 to 34 per cent as gonorrhea, while chancroid predominated in the remainder. Some indication of the prevalence of syphilis is provided by the results of serologic examinations of blood specimens taken from individuals admitted to tuberculosis wards. In a series of Kahn tests performed on 243 cases in 1950,[7] positive reactions were obtained in 13 per cent. Centers for the treatment of venereal diseases have been established at the Civil Hospital, in Aden township, and at the Keith Falconer Mission Hospital, in Sheikh Othman.

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H 164 Syphilis and gonorrhea are reputed to be common in the towns of the Protectorate, but no reliable information is available. A nonvenereal treponemal infection, believed to be bejel by most authorities, has been reported from various localities in southern Arabia. A focus probably exists around Beiham, in Western Aden Protectorate. Cases are observed from time to time in the Colony hospitals among persons from this area, as well as from Yemen.

H 164 516 Diseases of the Eyes. Trachoma and conjunctivitis are major problems, particularly in the Protectorate, where environmental conditions and the unhygienic customs of the people promote the spread of infectious eye diseases. Trachoma is frequent among the schoolchildren in the Colony. In a survey conducted in 1946,[8] the incidence of trachoma was found to be 18.9 per cent among 1,103 boys examined in the government schools. Measures for improved diagnosis and treatment were instituted, with an appreciable decrease in infection. In a similar group of 1,419 boys observed in 1948, evidence of trachoma was detected in 9.8 per cent.

H 164 Less is known of the extent of the disease in the interior. A medical survey in Western Aden Protectorate in 1939-40[9] revealed widespread trachoma infection, with rates varying from 14 per cent in Dhubiyat to

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63:Simmons et al G-8 (1941-1951) 1964
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reported from the Colony of Aden since 1929. A few cases are treated almost every year in the Colony hospitals, but, with rare exceptions, they have occurred among immigrant families or among persons arriving from other ports. Vaccination against smallpox is compulsory for all residents of the Colony. In addition, intensive revaccination campaigns are undertaken by the health authorities whenever cases are discovered, or when outbreaks are reported from adjacent areas, as at the time of the epidemic in Mukalla in 1949. Although visitors to the Colony are required to possess valid certificates of vaccination, enforcement is sometimes difficult because of the large numbers of dhows and other small vessels which ply between Aden and Indian or African ports. Vaccination posts are established along the land frontiers on caravan routes from Yemen and Western Aden Protectorate, at which immigrants are examined, and, if necessary, vaccinated.

Other Infections. Pneumonia is widespread, ranking among the leading causes of death in both the Colony and the Protectorate. The fatality rate among the immigrant community in the Colony is unusually high, since many of the individuals who flock to the port in search of work or medical attention arrive in a debilitated condition. Sporadic cases of diphtheria are reported each year from the Colony. Chickenpox, measles, mumps and poliomyelitis are endemic. Localized outbreaks of meningococcus meningitis are recorded occasionally.

Diseases Spread or Contracted Chiefly Through Contact

Venereal Diseases. All forms of venereal diseases are observed among the civilian populations in Aden Colony. Syphilis and gonorrhea are reportable, but the statistics probably fail to give a true picture of the relative frequency of the different venereal infections. In 1948 and 1949, following the inauguration of a campaign for better re-

75 per cent in Shuqra. In most localities, the infection rates ranged from 27 to 88 per cent among children under 15 years of age and from zero to 48 per cent in persons over 15 years of age. The Fadhli and the Abdali tribal districts were the most seriously affected regions visited.

Diseases of the Skin. Favus, ringworm and other mycotic skin infections are widely distributed. Madura foot is common in the Protectorate, and cases are seen in the Colony hospitals each year among patients from the interior. Phagedenic ulcers are responsible for considerable disability among laborers in the Colony and in all parts of the Protectorate. Several thousand cases are treated each year in the hospitals and the dispensaries in Aden Colony, where they are usually designated as "Yemen ulcers." The ankle is the most frequent site of infection, and amputation is often necessary in neglected cases.

Scabies and impetigo are prevalent, especially among the children of inland towns and villages who live under congested, insanitary conditions. By contrast, surprisingly few cases of scabies are encountered among the children seen in the schools in Aden township.

Leprosy. Leprosy is endemic in the Protectorate, but no indigenous cases have been reported from the Colony within recent years. The infection is probably not extensive, although foci of the disease are known to exist in the Hadhramaut and in the Lahej, the Dhala' and the Abyen areas in the western protectorate. As lepers are not discriminated against socially, some difficulty is encountered in controlling the movement of infected individuals in the Colony. A small leper hospital is located at Sheikh Othman: it receives patients not only from Aden territory but also from Yemen. Eighteen of the 29 patients in residence in 1939[18] were open nodular or lepromatous cases.

Other Infections. Tetanus is endemic, but reported cases are rare.

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Diseases Spread by Arthropods

Malaria. Little or no indigenous malaria exists at present in the Colony. From 1,000 to 2,000 malaria patients are treated each year in the civilian hospitals and dispensaries, but, with the exception of occasional cases of questionable origin, the infection has almost invariably been acquired outside the limits of the Colony, usually in the interior. Until recent decades, malaria was highly endemic in the oasis of Sheikh Othman and surrounding villages, and sporadic outbreaks were experienced in the town of Aden. Anopheline control work was initiated in 1909 and extended on a colony-wide basis in the 1930s. As a result, the disease was early eliminated from Aden, while its prevalence was progressively reduced in Sheikh Othman. The number of local cases treated at the Keith Falconer Mission Hospital declined from almost 2,000 a year in 1907 to zero in 1950. The last outbreak of malaria was recorded in 1943 among the transient laborers living in *kutcha* hut settlements in Sheikh Othman. At that time, *Anopheles adenensis* (— *A. culicifacies adenensis*), the principal vector, was found breeding in the soakpits. Antianopheline measures are carried on continuously in the Colony and adjacent sections of the Protectorate, and vector species have been eradicated almost completely.

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Malaria occurs in most portions of the Protectorate, exclusive of the desert regions and the mountainous areas at the higher elevations. In the 1939-40 survey of Western Aden Protectorate, all gradations of endemicity were encountered. In general, the infection was hyperendemic in the vicinity of perennial streams and moderately endemic in villages around wadies which remained dry for most of the year. The splenic index ranged from 40 to 92 per cent in different localities. Extensive epidemics have been recorded from the highland districts, especially from the Dhala' and the Yafa'i country. Both *Plasmodium falcip-*

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H 164 arum and *P. vivax* are found in most regions, but *P. malariae* is apparently relatively rare. *A. gambiae* is widely distributed, and is regarded as the principal vector in the Protectorate.

H R 164 **Rickettsial Infections.** Louse-borne typhus has been recognized in the highlands of southwestern Arabia since 1939, and occasional imported cases are admitted to hospitals in the Colony. In 1944-45, epidemics of typhus were recorded from Western Aden Protectorate which were secondary to foci in Yemen. The disease first appeared A 164 167 744 in Aden in January, 1944, among Jewish emigrants who had traveled overland from Yemen and were awaiting transport to Israel. Fifteen cases were reported, all but 2 of which were members of the Jewish community. The movement of Yemenis across the frontiers was restricted, and a camp at Lahej which at that time harbored some 1,600 Jewish emigrants was transA 167 ferred to a quarantine site in the desert. Sick individuals from the Jewish quarters 758 in the town were removed to the camp, and 744 wholesale delousing measures were enforced both at the camp and in infected areas in the town. The spread of the infection in the Colony was curtailed, but new outbreaks developed in the Amiri and the Subeihi tribal districts, near the Yemeni border, and progressed along the trade routes to within 40 miles of Aden Colony. The importance of the port and military installations during the prevailing war emergency necessitated the creation of a sanitary cordon to isolate the Colony from the interior.

A 164 744 The infection persisted in epidemic form in the Protectorate, spreading eastward to the Dhala' plateau and the mountainous villages of the Lower Yafa'i country. In many localities, 10 to 25 per cent of the inhabitants are believed to have suffered from the disease. Insecticidal powders, as well as antityphus vaccine, were supplied by the United States Typhus Commission, and mass dusting campaigns were carried on in the villages visited by the medical